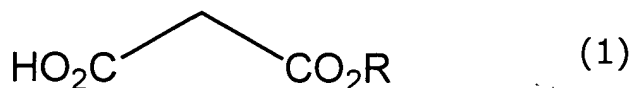


AMENDMENTS TO THE CLAIMS

1. **(Currently Amended)** A compound represented by formula (1) or a salt thereof:



wherein R represents a ~~group that is easily removable upon hydrolysis in vivo.~~

- (a) C1-C6 alkylcarbonyloxy C1-C6 alkyl,
- (b) arylcarbonyloxy C1-C6 alkyl,
- (c) five- to seven-membered heterocyclic carbonyloxy C1-C6 alkyl,
- (d) C2-C6 alkenylcarbonyloxy C1-C6 alkyl,
- (e) C2-C6 alkynylcarbonyloxy C1-C6 alkyl,
- (f) C3-C8 cycloalkylcarbonyloxy C1-C6 alkyl,
- (g) C1-C6 alkoxycarbonyloxy C1-C6 alkyl,
- (h) aryloxcarbonyloxy C1-C6 alkyl,
- (i) five- to seven-membered heterocyclic oxycarbonyloxy C1-C6 alkyl,
- (j) C2-C6 alkenyloxcarbonyloxy C1-C6 alkyl,
- (k) C2-C6 alkynyloxcarbonyloxy C1-C6 alkyl,
- (l) C3-C8 cycloalkyloxcarbonyloxy C1-C6 alkyl,
- (m) phthalid-3-yl, or
- (n) 2-oxo-5-(C1-C6 alkyl)-1,3-dioxolen-4-ylmethyl,

wherein groups (a) to (n) are optionally substituted by a substituent selected from the group consisting of:

C1-C6 alkyl; C3-C8 cycloalkyl; C1-C6 alkoxy; C2-C6 alkenyl; C2-C6 alkynyl; aryl
optionally substituted by C1-C6 alkyl; five- to seven-membered heterocyclic group; C1-C6
alkylcarbonyloxy; C1-C6 alkoxycarbonyloxy; arylcarbonyloxy; aryloxcarbonyloxy; C1-C6
alkylthio; C2-C6 alkenylthio; and di-C1-C6 alkylamino, and
said aryl represents phenyl or naphthyl.

2. **(Currently Amended)** The compound according to claim 1, wherein R represents is selected from groups: (a), (b), (d), (f) to (h), (j), and (l) to (n).

- ~~(a) C1-C6 alkylcarbonyloxy-C1-C6 alkyl,~~
- ~~— (b) arylcarbonyloxy-C1-C6 alkyl,~~
- ~~— (c) five- to seven-membered heterocyclic carbonyloxy-C1-C6 alkyl,~~
- ~~— (d) C2-C6 alkenylcarbonyloxy-C1-C6 alkyl,~~
- ~~— (e) C2-C6 alkynylcarbonyloxy-C1-C6 alkyl,~~
- ~~— (f) C3-C8 cycloalkylcarbonyloxy-C1-C6 alkyl,~~
- ~~— (g) C1-C6 alkoxy carbonyloxy-C1-C6 alkyl,~~
- ~~— (h) aryloxy carbonyloxy-C1-C6 alkyl,~~
- ~~— (i) five- to seven-membered heterocyclic oxycarbonyloxy-C1-C6 alkyl,~~
- ~~— (j) C2-C6 alkenyloxy carbonyloxy-C1-C6 alkyl,~~
- ~~— (k) C2-C6 alkynyloxy carbonyloxy-C1-C6 alkyl,~~
- ~~— (l) C3-C8 cycloalkyloxy carbonyloxy-C1-C6 alkyl,~~
- ~~— (m) phthalid-3-yl, or~~
- ~~— (n) 2-oxo-5-(C1-C6 alkyl)-1,3-dioxolen-4-ylmethyl,~~

wherein groups (a) to (n) are optionally substituted by a substituent selected from the group consisting of:

- ~~— C1-C6 alkyl; C3-C8 cycloalkyl; C1-C6 alkoxy; C2-C6 alkenyl; C2-C6 alkynyl; aryl~~
- ~~optionally substituted by C1-C6 alkyl; five- to seven-membered heterocyclic group; C1-C6 alkylcarbonyloxy; C1-C6 alkoxy carbonyloxy; arylcarbonyloxy; aryloxy carbonyloxy; C1-C6 alkylthio; C2-C6 alkenylthio; and di-C1-C6 alkylamino, and~~
- ~~— said aryl represents phenyl or naphthyl.~~

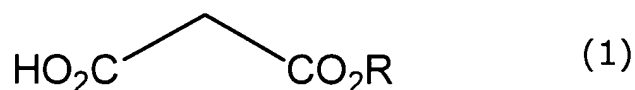
3. **(Withdrawn)** The compound according to claim 2, wherein the substituent in R is selected from the group consisting of C1-C6 alkyl, C3-C8 cycloalkyl, C1-C6 alkoxy, C2-C6 alkenyl, C2-C6 alkynyl, aryl, and five- to seven-membered heterocyclic group.

4. **(Withdrawn)** The compound according to claim 2, wherein the substituent in R represents C1-C4 alkyl or C3-C6 cycloalkyl.
5. **(Original)** The compound according to claim 2, wherein R represents
- (a') C1-C6 alkylcarbonyloxy C1-C6 alkyl optionally substituted by C3-C8 cycloalkyl; or by aryl optionally substituted by C1-C6 alkyl,
 - (b') arylcarbonyloxy C1-C6 alkyl in which the aryl part is optionally substituted by C1-C6 alkyl,
 - (d') unsubstituted C2-C6 alkenylcarbonyloxy C1-C6 alkyl,
 - (f') unsubstituted C3-C8 cycloalkylcarbonyloxy C1-C6 alkyl,
 - (g') C1-C6 alkoxycarbonyloxy C1-C6 alkyl optionally substituted by C3-C8 cycloalkyl; or by aryl optionally substituted by C1-C6 alkyl,
 - (h') aryloxy carbonyloxy C1-C6 alkyl in which the aryl part is optionally substituted by C1-C6 alkyl,
 - (j') unsubstituted C2-C6 alkenyloxycarbonyloxy C1-C6 alkyl,
 - (l') unsubstituted C3-C8 cycloalkyloxycarbonyloxy C1-C6 alkyl,
 - (m') unsubstituted phthalid-3-yl, or
 - (n') unsubstituted 2-oxo-5-(C1-C6 alkyl)-1,3-dioxolen-4-ylmethyl.
6. **(Original)** The compound according to claim 2, wherein R represents
- (a'') C1-C6 alkylcarbonyloxy C1-C2 alkyl optionally substituted by cyclohexyl,
 - (b'') phenylcarbonyloxy C1-C2 alkyl in which the phenyl part is optionally substituted by C1-C4 alkyl,
 - (g'') C1-C6 alkoxycarbonyloxy C1-C2 alkyl optionally substituted by cyclohexyl,
 - (h'') phenyloxycarbonyloxy C1-C2 alkyl in which the phenyl part is optionally substituted by C1-C4 alkyl,
 - (l'') unsubstituted C3-C6 cycloalkyloxycarbonyloxy C1-C2 alkyl, or
 - (n'') unsubstituted 2-oxo-5-(C1-C4 alkyl)-1,3-dioxolen-4-ylmethyl.

7. **(Original)** The compound according to claim 1, which is selected from the following group of compounds:

monoacetyloxymethyl malonate,
monopivaloyloxymethyl malonate,
mono-2,4-dimethylbenzoyloxymethyl malonate,
mono-1-(ethoxycarbonyloxy)ethyl malonate,
mono-1-(isopropoxycarbonyloxy)ethyl malonate,
monocyclohexyloxycarbonyloxymethyl malonate,
mono-1-(cyclohexyloxycarbonyloxy)ethyl malonate,
mono-1-(phenoxycarbonyloxy)ethyl malonate,
mono-2-oxo-5-methyl-1,3-dioxolen-4-ylmethyl malonate,
mono-1-(2,2-dimethylpropoxycarbonyloxy)ethyl malonate,
mono-1-(2-cyclohexylethoxycarbonyloxy)ethyl malonate,
mono-1-(isobutoxycarbonyloxy)ethyl malonate,
monoisopropoxycarbonyloxymethyl malonate,
monoisopentoxycarbonyloxymethyl malonate,
monoisobutylcarbonyloxymethyl malonate, and
mono-1-ethylpropylcarbonyloxymethyl malonate.

8. **(Withdrawn)** A process for producing a compound represented by formula (1) or a salt thereof:



said process comprising the step of reacting malonic acid with a compound represented by formula (2) in the presence of a base:

RX (2)

wherein

R represents a group that, in the form of an ester group -COOR, can be degraded and is easily removable in vivo; and

X represents a halogen atom.

9. **(Withdrawn)** The process according to claim 8, wherein R represents

- (a) C1-C6 alkylcarbonyloxy C1-C6 alkyl,
- (b) arylcarbonyloxy C1-C6 alkyl,
- (c) five- to seven-membered heterocyclic carbonyloxy C1-C6 alkyl,
- (d) C2-C6 alkenylcarbonyloxy C1-C6 alkyl,
- (e) C2-C6 alkynylcarbonyloxy C1-C6 alkyl,
- (f) C3-C8 cycloalkylcarbonyloxy C1-C6 alkyl,
- (g) C1-C6 alkoxy carbonyloxy C1-C6 alkyl,
- (h) aryloxy carbonyloxy C1-C6 alkyl,
- (i) five- to seven-membered heterocyclic oxycarbonyloxy C1-C6 alkyl,
- (j) C2-C6 alkenyloxy carbonyloxy C1-C6 alkyl,
- (k) C2-C6 alkynyloxy carbonyloxy C1-C6 alkyl,
- (l) C3-C8 cycloalkyloxy carbonyloxy C1-C6 alkyl,
- (m) phthalid-3-yl, or
- (n) 2-oxo-5-(C1-C6 alkyl)-1,3-dioxolen-4-ylmethyl,

wherein groups (a) to (n) are optionally substituted by a substituent selected from the group consisting of:

C1-C6 alkyl; C3-C8 cycloalkyl; C1-C6 alkoxy; C2-C6 alkenyl; C2-C6 alkynyl; aryl optionally substituted by C1-C6 alkyl; five- to seven-membered heterocyclic group; C1-C6 alkylcarbonyloxy; C1-C6 alkoxy carbonyloxy; arylcarbonyloxy; aryloxy carbonyloxy; C1-C6 alkylthio; C2-C6 alkenylthio; and di-C1-C6 alkylamino, and

said aryl represents phenyl or naphthyl.

10. **(Withdrawn)** The process according to claim 9, wherein R represents
- (a') C1-C6 alkylcarbonyloxy C1-C6 alkyl optionally substituted by C3-C8 cycloalkyl; or by aryl optionally substituted by C1-C6 alkyl,
 - (b') arylcarbonyloxy C1-C6 alkyl in which the aryl part is optionally substituted by C1-C6 alkyl,
 - (d') unsubstituted C2-C6 alkenylcarbonyloxy C1-C6 alkyl,
 - (f') unsubstituted C3-C8 cycloalkylcarbonyloxy C1-C6 alkyl,
 - (g') C1-C6 alkoxy carbonyloxy C1-C6 alkyl optionally substituted by C3-C8 cycloalkyl; or by aryl optionally substituted by C1-C6 alkyl,
 - (h') aryloxy carbonyloxy C1-C6 alkyl in which the aryl part is optionally substituted by C1-C6 alkyl,
 - (j') unsubstituted C2-C6 alkenyloxy carbonyloxy C1-C6 alkyl,
 - (l') unsubstituted C3-C8 cycloalkyloxy carbonyloxy C1-C6 alkyl,
 - (m') unsubstituted phthalid-3-yl, or
 - (n') unsubstituted 2-oxo-5-(C1-C6 alkyl)-1,3-dioxolen-4-ylmethyl.
11. **(Withdrawn)** The process according to claim 9, wherein R represents
- (a'') C1-C6 alkylcarbonyloxy C1-C2 alkyl optionally substituted by cyclohexyl,
 - (b'') phenylcarbonyloxy C1-C2 alkyl in which the phenyl part is optionally substituted by C1-C4 alkyl,
 - (g'') C1-C6 alkoxy carbonyloxy C1-C2 alkyl optionally substituted by cyclohexyl,
 - (h'') phenyloxy carbonyloxy C1-C2 alkyl in which the phenyl part is optionally substituted by C1-C4 alkyl,
 - (l'') unsubstituted C3-C6 cycloalkyloxy carbonyloxy C1-C2 alkyl, or
 - (n'') unsubstituted 2-oxo-5-(C1-C4 alkyl)-1,3-dioxolen-4-ylmethyl.
12. **(Withdrawn)** The process according to claim 8, wherein the compound

represented by formula (1) is selected from the following group of compounds:

monoacetyloxymethyl malonate,
monopivaloyloxymethyl malonate,
mono-2,4-dimethylbenzoyloxymethyl malonate,
mono-1-(ethoxycarbonyloxy)ethyl malonate,
mono-1-(isopropoxycarbonyloxy)ethyl malonate,
monocyclohexyloxycarbonyloxymethyl malonate,
mono-1-(cyclohexyloxycarbonyloxy)ethyl malonate,
mono-1-(phenoxycarbonyloxy)ethyl malonate,
mono-2-oxo-5-methyl-1,3-dioxolen-4-ylmethyl malonate,
mono-1-(2,2-dimethylpropoxycarbonyloxy)ethyl malonate,
mono-1-(2-cyclohexylethoxycarbonyloxy)ethyl malonate,
mono-1-(isobutoxycarbonyloxy)ethyl malonate,
monoisopropoxycarbonyloxymethyl malonate,
monoisopentoxycarbonyloxymethyl malonate,
monoisobutylcarbonyloxymethyl malonate, and
mono-1-ethylpropylcarbonyloxymethyl malonate.

13. **(Withdrawn)** The process according to claim 8, wherein said base is triethylamine, N,N-diisopropylethylamine, or 2,6-lutidine.
14. **(Withdrawn)** The process according to claim 8, wherein said reaction is carried out in an aprotic polar solvent.
15. **(Withdrawn)** The process according to claim 14, wherein said aprotic polar solvent is tetrahydrofuran or acetonitrile.
16. **(Withdrawn)** The process according to claim 8, wherein, in the reaction, a

compound represented by formula (3) is further added:



wherein

X^- represents a halide ion; and

R^1 to R^4 , which may be the same or different, represent

C1-C6 alkyl which may combine with any of R^1 to R^4 to form a ring,

aryl optionally substituted by C1-C6 alkyl,

aryl C1-C6 alkyl in which the aryl part is optionally substituted by C1-C6 alkyl,

C3-C8 cycloalkyl C1-C6 alkyl,

C3-C8 cycloalkyl,

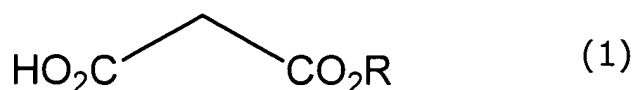
C2-C6 alkenyl, or

C2-C6 alkynyl.

17. **(Withdrawn)** The process according to claim 16, wherein the compound represented by formula (3) is tetra-n-butylammonium chloride, N,N-diethylpiperidinium chloride, or benzyltriethylammonium chloride.

18. **(Withdrawn)** A process for producing a prodrug compound having an ester group -COOR as at least one of substituents,

said process comprising the step of introducing a -COOR group into a precursor compound of said prodrug compound using a compound represented by formula (1) or a salt thereof:



wherein R represents a group that is easily removable upon hydrolysis in vivo.

19. **(Withdrawn)** The process according to claim 18, wherein the -COOR group is introduced into the precursor compound by reacting
a magnesium malonate represented by formula (4)
$$\text{Mg}(\text{O}_2\text{CCH}_2\text{CO}_2\text{R})_2 \quad (4)$$
wherein R represents a group that is easily removable upon hydrolysis in vivo, obtained by reacting the compound represented by formula (1) or a salt thereof with a magnesium salt in an organic solvent
with the precursor compound of said prodrug compound.
20. **(Withdrawn)** The process according to claim 18, wherein said prodrug compound is a prodrug of an antibacterial carbapenem compound which can be administered orally.
21. **(Withdrawn)** The process according to claim 18, wherein R represents
(a) C1-C6 alkylcarbonyloxy C1-C6 alkyl,
(b) arylcarbonyloxy C1-C6 alkyl,
(c) five- to seven-membered heterocyclic carbonyloxy C1-C6 alkyl,
(d) C2-C6 alkenylcarbonyloxy C1-C6 alkyl,
(e) C2-C6 alkynylcarbonyloxy C1-C6 alkyl,
(f) C3-C8 cycloalkylcarbonyloxy C1-C6 alkyl,
(g) C1-C6 alkoxycarbonyloxy C1-C6 alkyl,
(h) aryloxy carbonyloxy C1-C6 alkyl,
(i) five- to seven-membered heterocyclic oxycarbonyloxy C1-C6 alkyl,
(j) C2-C6 alkenyloxycarbonyloxy C1-C6 alkyl,
(k) C2-C6 alkynyloxycarbonyloxy C1-C6 alkyl,
(l) C3-C8 cycloalkyloxycarbonyloxy C1-C6 alkyl,
(m) phthalid-3-yl, or
(n) 2-oxo-5-(C1-C6 alkyl)-1,3-dioxolen-4-ylmethyl,

wherein groups (a) to (n) are optionally substituted by a substituent selected from the group consisting of:

C1-C6 alkyl; C3-C8 cycloalkyl; C1-C6 alkoxy; C2-C6 alkenyl; C2-C6 alkynyl; aryl optionally substituted by C1-C6 alkyl; five- to seven-membered heterocyclic group; C1-C6 alkylcarbonyloxy; C1-C6 alkoxycarbonyloxy; arylcarbonyloxy; aryloxy carbonyloxy; C1-C6 alkylthio; C2-C6 alkenylthio; and di-C1-C6 alkylamino, and

said aryl represents phenyl or naphthyl.

22. **(Withdrawn)** The process according to claim 21, wherein R represents
- (a") C1-C6 alkylcarbonyloxy C1-C2 alkyl optionally substituted by cyclohexyl,
 - (b") phenylcarbonyloxy C1-C2 alkyl in which the phenyl part is optionally substituted by C1-C4 alkyl,
 - (g") C1-C6 alkoxycarbonyloxy C1-C2 alkyl optionally substituted by cyclohexyl,
 - (h") phenyloxy carbonyloxy C1-C2 alkyl in which the phenyl part is optionally substituted by C1-C4 alkyl,
 - (l") unsubstituted C3-C6 cycloalkyloxy carbonyloxy C1-C2 alkyl, or
 - (n") unsubstituted 2-oxo-5-(C1-C4 alkyl)-1,3-dioxolen-4-ylmethyl.

23. **(Withdrawn)** The process according to claim 18, wherein the compound represented by formula (1) is selected from the following group of compounds:

monoacetyloxymethyl malonate,
monopivaloyloxymethyl malonate,
mono-2,4-dimethylbenzoyloxymethyl malonate,
mono-1-(ethoxycarbonyloxy)ethyl malonate,
mono-1-(isopropoxycarbonyloxy)ethyl malonate,
monocyclohexyloxy carbonyloxymethyl malonate,
mono-1-(cyclohexyloxy carbonyloxy)ethyl malonate,
mono-1-(phenoxy carbonyloxy)ethyl malonate,

mono-2-oxo-5-methyl-1,3-dioxolen-4-ylmethyl malonate,
mono-1-(2,2-dimethylpropoxycarbonyloxy)ethyl malonate,
mono-1-(2-cyclohexylethoxycarbonyloxy)ethyl malonate,
mono-1-(isobutoxycarbonyloxy)ethyl malonate,
monoisopropoxycarbonyloxymethyl malonate,
monoisopentoxycarbonyloxymethyl malonate,
monoisobutylcarbonyloxymethyl malonate, and
mono-1-ethylpropylcarbonyloxymethyl malonate.